



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,010	06/03/2005	Shinichi Ookubo	040894-7251	6869

9629 7590 01/09/2007
MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER

TIBBITS, PIA FLORENCE

ART UNIT	PAPER NUMBER
----------	--------------

2838

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/538,010

Applicant(s)

OOKUBO ET AL.

Examiner

Pia F. Tibbits

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 4-6 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is in answer to the amendment filed 12/5/2006.

Drawings

1. The drawings are finally objected to under 37 CFR 1.83(a) because they fail to show the conventional names, as described in the specification, e.g. capacitor, grip part, contact arm, etc. for the elements shown in fig.1 with non-conventional symbols. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

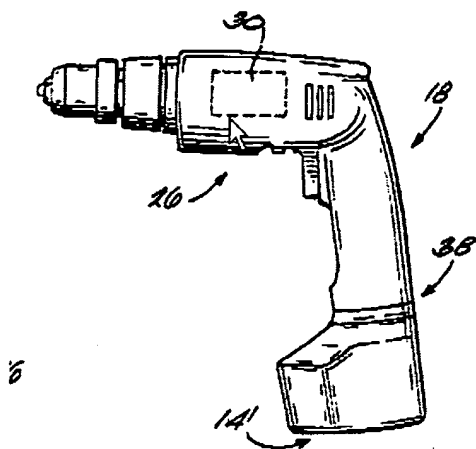
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kubale** [6525511] in view of disclosed Prior Art, **JP-09285006** in view of disclosed Prior Art, **JP-2002142375**.

Art Unit: 2838

Kubale discloses in figures 1A-11B a cordless power tool 18

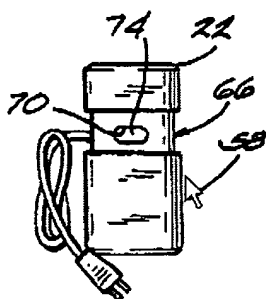


comprising:

a power supply 14 of a motor 54 [see fig.1A],

along an opening axis 50. In this configuration, a motor terminal assembly 54 (schematically illustrated in FIGS. 3B and 4B) is

and rechargeable by an external power supply [see fig.2A; column 6, lines 12-16].



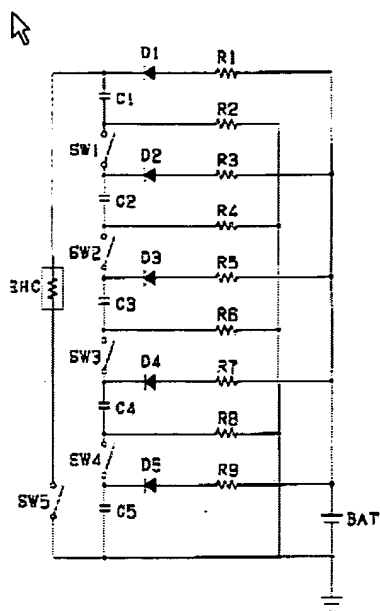
(6) As shown in FIGS. 2A, the battery charger 22 includes a charger housing 58 and a charging circuit 62 (schematically illustrated in FIGS. 3A and 4A) supported by the charger housing 58 and electrically connectable to a power source (not shown) and to a battery to charge the battery. In the illustrated

a charging electrode provided in the tool main body 62.

Art Unit: 2838

Kubale does not disclose the power supply including a plurality of electric double layer capacitors, and a series parallel switching circuit that switches the plurality of electric double layer capacitors into parallel connection when a start switch is off, and switches the plurality of electric double layer capacitors into series connection when the start switch is on.

JP-09285006 discloses in the abstract and figures 1-2



a power supply comprising a plurality of capacitors C1-C5 and a battery BAT to supply large electric power while minimizing a burden and bad effect on a storage battery. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Kubale's apparatus and include the power supply, as disclosed by JP-09285006, in order to supply large electric power while minimizing a burden and bad effect on a storage battery.

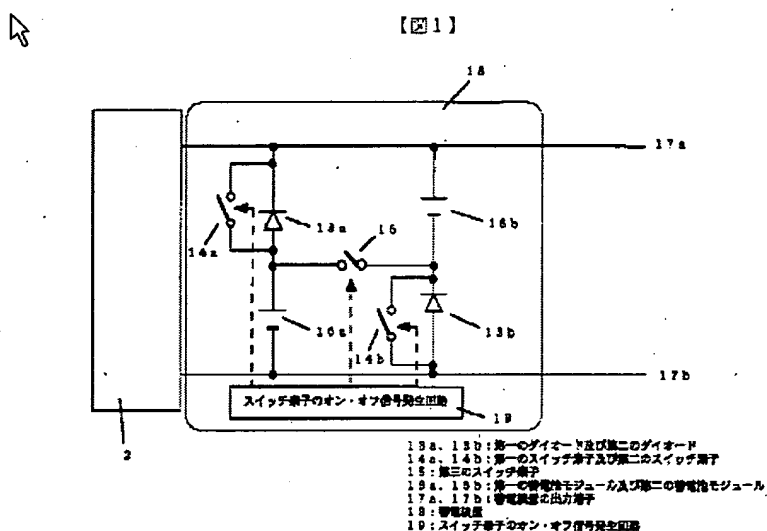
As to the use of an electric double layer capacitor, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the capacitor disclosed by Kubale and Wang in order to accommodate application specifics since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known

Art Unit: 2838

material on the basis of its suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Kubale and JP-09285006 do not disclose a series parallel switching circuit that switches the plurality of electric double layer capacitors into parallel connection when a start switch is off, and switches the plurality of electric double layer capacitors into series connection when the start switch is on.

JP-2002142375 discloses



in the abstract and figures 1-9 a series parallel switching circuit that switches the plurality of electric double layer capacitors into parallel connection when a start switch is off, and switches the plurality of electric double layer capacitors into series connection when the start switch is on to obtain a power storage system wherein the charging voltages of two sets of storage battery modules are equalized using a single charger.

Art Unit: 2838

§ SOLUTION: The positive pole of a first storage battery module 16a and the anode of a first diode 13a and the negative pole of a second storage battery module 16b and the cathode of a second diode 13b are series connected with each other, respectively, and the diodes 13a and 13b are parallel connected with switching elements 14a and 14b, respectively. A third switching element 15 is connected between the anode of the first diode 13a and the cathode of the second diode 13b. With this constitution, the first storage battery module 16a and the second storage battery module 16b are charged independently from each other by turning on and off the two switching elements 14a and 14b. Thus passage of overcurrent due to differences in terminal voltage between the battery modules and back flow of currents to the charger due to high voltage during discharging are prevented.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Kubale's and JP-09285006's apparatus and include a series parallel switching circuit that switches the plurality of electric double layer capacitors into parallel connection when a start switch is off, and switches the plurality of electric double layer capacitors into series connection when the start switch is on, as disclosed by JP-2002142375, in order to obtain a power storage system wherein the charging voltages of two sets of storage battery modules are equalized using a single charger

As to claim 6, using a secondary battery that is a *lithium-ion battery*, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the capacitor disclosed by (Kubale, JP-09285006 and JP-2002142375) in order to provide a secondary battery that is light, has a high capacity, can be repeatedly used for an extended period of time, and does not have memory effect since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Art Unit: 2838

As to claim 5, see remarks and references above.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Allowable Subject Matter

5. With respect to claims 1-3, 7: none of the references of record prior to applicant's filing date discloses, teaches, or suggests a cordless power tool comprising, *inter alia*, a contact arm and when the safety switch and the trigger switch are off, the plurality of electrical double layer capacitors are connected in parallel when the safety switch is turned on, the plurality of electric double layer capacitors are connected in series, and when the safety switch and the trigger switch are turned on, current is supplied from the plurality of electric double layer capacitors connected in series to the motor.

6. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, as per above-mentioned reasons for allowance.

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection, and the revisions to the claims, which are new issue.

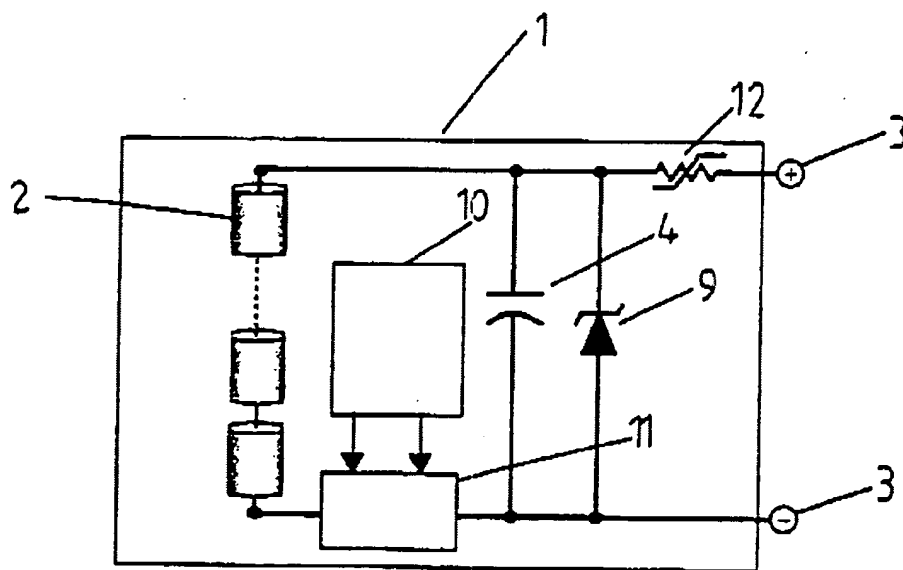
Conclusion

8. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 6/3/2005 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2838

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus: **Wang et al.** [6373152] discloses a power supply for a tool [see abstract; column 1, line 11] comprising capacitor 4 and a charging electrode/cathode to meet the requirement of a large and instantaneous current output [see column 1, lines 43-44].



The patent also discloses the secondary battery is a ***lithium-ion battery***, which is preferable since it is light, has a high capacity, can be repeatedly used for an extended period of time, and does not have memory effect [see column 2, lines 43-49].

Art Unit: 2838

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact the Supervisory Patent Examiner Karl Easthom whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

December 26, 2006

Pia Tibbits

Primary Patent Examiner